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- Asano, Michinari, Sumitomo Electric Ind., Ltd.  
Itami-shi, Hyogo (JP)
- Shiraishi, Junichi, Sumitomo Electric Ind., Ltd.  
Itami-shi, Hyogo (JP)
- Nakai, Tetsuo, Sumitomo Electric Ind., Ltd.  
Itami-shi, Hyogo (JP)

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(71) Applicant: Sumitomo Electric Industries, Ltd.  
Osaka (JP)

(72) Inventors:  
• Yoshida, Katsuhito, Sumitomo Electric Ind., Ltd.  
Itami-shi, Hyogo (JP)

(74) Representative:  
Cross, Rupert Edward Blount et al  
BOULT WADE TENNANT,  
Verulam Gardens  
70 Gray's Inn Road  
London WC1X 8BT (GB)

(54) A diamond sintered compact and a process for the production of the same

(57) The present invention aims at providing a material for a diamond sintered compact tool, which has a high strength and is available as a material for a cutting tool.

Accordingly, the present invention is concerned with a diamond sintered compact comprising a WC-Co type cemented carbide substrate having slight undulation

and a diamond sintered compact bonded to one surface of the substrate by sintering during a step of sintering at an ultra-high pressure and high temperature, which has a plate thickness is 0.5 mm to 5 mm and an outer diameter is at least 20 mm and whose diamond sintered compact layer has at least 50 % of a thickness area within a range of 0.05 mm to 0.4 mm and contains Co diffusing from the cemented carbide substrate.

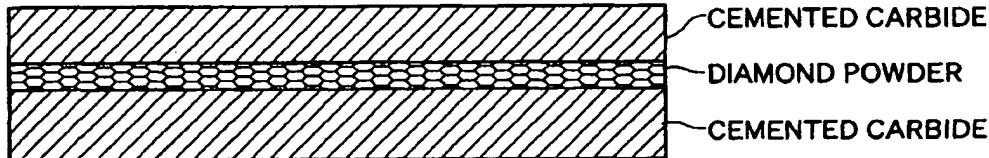


FIG. 1

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**EUROPEAN SEARCH REPORT**

Application Number

EP 99 30 6088

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	US 5 011 515 A (FRUSHOUR ROBERT H) 30 April 1991 (1991-04-30) * column 3, line 13 - column 3, line 21 * * column 5, line 50 - column 5, line 56; figures 2-7; example 1 *	1-8	B01J3/06 C23C30/00 B22F7/06 B24D3/18 B24D18/00						
X	EP 0 786 300 A (GEN ELECTRIC) 30 July 1997 (1997-07-30) * column 1, line 3 - column 10 * * column 5, line 42 - column 6, line 11; claims 1,2,7,8; figures 2-6 *	1-8							
X	US 4 293 618 A (HARA AKIO ET AL) 6 October 1981 (1981-10-06) * claim 1; example 1 *	5-8							
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			TECHNICAL FIELDS SEARCHED (Int.Cl.)						
			B01J C04B E21B C23C B22F B24D						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Place of search</th> <th style="text-align: left;">Date of completion of the search</th> <th style="text-align: left;">Examiner</th> </tr> <tr> <td style="text-align: center;">THE HAGUE</td> <td style="text-align: center;">22 August 2000</td> <td style="text-align: center;">Willsher, C</td> </tr> </table> <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>				Place of search	Date of completion of the search	Examiner	THE HAGUE	22 August 2000	Willsher, C
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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